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10/727,578	12/05/2003	Edwin Peter Dawson Pednault	YOR920030072US1	7351

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MCGINN INTELLECTUAL PROPERTY LAW GROUP, PLLC
8321 OLD COURTHOUSE ROAD
SUITE 200
VIENNA, VA 22182-3817

EXAMINER	
KENNEDY, ADRIAN L	
ART UNIT	PAPER NUMBER
2121	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)
	10/727,578	PEDNAULT, EDWIN PETER DAWSON
	Examiner	Art Unit
	Adrian L. Kennedy	2121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 30 November 2006.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-22,25 and 26 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-22,25 and 26 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 4/15/04 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Examiner's Detailed Office Action

1. **Claims 1-26** were originally presented.

2. **Claims 23-24** were cancelled.

3. **Claims 1-7, 10-13, 16-22 and 25** were amended.

4. **Claims 1-22 and 25-26** will be examined.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 1-18, 20-22 and 25-26 are rejected under 35 U.S.C 101 as being directed to nonstatutory subject matter. In particular claims 1-18, 20-22 and 25-26 are considered to be directed to software and in accordance with "The Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility", Annex IV (a). It should be noted that the Guidelines provide a framework for the rejection, but it is the case law cited therein that provides the legal authority for this rejection. The claims do not set forth any structure whereby the functionality of the software may be realized. Accordingly, these claims do not define patent eligible subject matter.

Furthermore, claims 1-18, 20-22 and 25-26 do not set forth a "useful, concrete and tangible result". In particular, it is not considered that these claims set forth a tangible result. Claims 1-18, 20-22 and 25-26 do not produce a practical real world result. The examiner takes the position that while, it is clear from applicant's claims and disclosure, that the intended invention is a predictive modeling method. However, the

applicant has failed to include an intended real world use (i.e. an application of the invention), a concrete result and tangible result (of the output).

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claim 1-18, 20, 22 and 25-26 is rejected under 35 U.S.C. 102(b) as being anticipated by Kitchen et al. (USPubN 2003/0220777).

Regarding claim 1:

Kitchen et al. teaches,

(Currently amended) A predictive model method (Paragraph 0003; "*the present invention relates to deriving an outcome predictor*"), comprising:

receiving first input data into an initial model to develop an initial model output; and

receiving second input data and said initial model output as inputs data into a first boosting stage to develop an improvement to said initial model output, said second input data comprising one of said first input data, data not included in said first input data, and a combination thereof.

The examiner takes the position that the process of receiving a first input to produce an output, then inputting said output and a second input into a boosting stage is anticipated in the process taught in Paragraph 0011, of Kitchen et al. (P 0011; "*if the initial data set is determined not to be representative, underrepresented data is appropriately replicated and the replicated data combined with the data in the initial data set so as to produce a resulting modified data set*").

Additionally, the examiner takes the position that the "boosting stage", as claimed by the applicant, is anticipated by the process of applying the Recursive Partitioning methodology (Kitchen et al.; P 0026-0030). This position is supported by applicant's disclosure which teaches that "boosting stages" consist of a "feature transformation' (Applicant's Disclosure; P 0084) and a "linear regression" (Applicant's Disclosure; P 0086). It is widely known in the art that recursive partitioning is a non-linear regression method that transforms input data.

Regarding claim 2:

Kitchen et al. teaches,

(Currently amended) The method further comprising:

providing an output of said first boosting stage as an inputs into a second boosting stage.

The examiner takes the position that the use of the output of a first "boosting stage" as input into a second and/or successive "boosting stages" is inherent in the

process of replicating and combining data (P 0011; "*underrepresented data is appropriately and the replicated data combined with the data in the initial data set*"). The examiner asserts that by teaching that the replication and combining method continues until a data set is produced that best represents the data set of interest, it is inherent that the "boosted" output that has previously gone through the Recursive Partitioning process will continue to go through the Recursive Partitioning process until a representative data set is produced.

Regarding claim 3:

Kitchen et al. teaches,

(Currently amended) The method further comprising:

successively providing, for one or more additional boosting stages, an output of a preceding boosting stage as an first inputs into a succeeding boosting stage.

The examiner takes the position that the use of the output of a first "boosting stage" as input into a second and/or successive "boosting stages" is inherent in the process of replicating and combining data (P 0011; "*underrepresented data is appropriately replicated and the replicated data combined with the data in the initial data set*"). The examiner asserts that by teaching that the replication and combining method continues until a data set is produced that best represents the data set of interest it is inherent that the "boosted" output that has previously gone through the Recursive Partitioning process will continue to go through the Recursive Partitioning process until a representative data set is produced.

Regarding claim 4:

Kitchen et al. teaches,

(Currently amended) The method wherein said first boosting stage comprises a transform/regression stage that comprises:

a feature transform stage receiving said second input data and said initial model output (P 0014; "*MARS generates basis function in the form of a single variable transformation or multiple variable interaction*");

linear regression stage receiving an output of said feature transform stage (P0014; "*CART modeling*"); and

an output summing node receiving as inputs said initial model output and an output of said linear regression stage, an output of said output summing node comprising a first boosting stage model output (The examiner takes the position that although not explicitly state the output summing node, as claimed by the applicant, is inherent in the invention of Kitchen et al. This position is supported by Kitchen et al. teaching the combining of MARS and CART methods for determining an outcome (P 0015; "*The treatment results are the validated via the MARS and CART modeling*")).

Regarding claim 5:

Kitchen et al. teaches,

(Currently amended) The method further comprising:

successively providing, for one or more transform/regression stages, an output of a preceding transform/regression stage as an inputs into a succeeding transform/regression stage.

The examiner takes the position that the successively providing of an output from previous transform/regression stages as input to succeeding transform stages is anticipated by Kitchen et al. teaching the repeated replication, combining and modeling of data using MARS in combination with CART. Additionally, Kitchen et al. teaches the repeated modeling of data in Paragraph 0026 ("MARS and CART"). The method of the invention of starts with the application of the MARS methodology and then applies the CART methodology, and this process is repeated until a representative data set is produced (P 0011 and 0014-0015).

Regarding claim 6:

Kitchen et al. teaches,

(Currently amended) The method wherein for at least one said one or more transform/regression stages, a third input into said succeeding transform/regression stage comprises an output of said linear regression stage of a preceding transform/regression stage.

The examiner takes the position that the successively providing of an output from previous transform/regression stages as input to succeeding transform stages is anticipated by Kitchen et al. teaching the repeated replication, combining and modeling of data using MARS in combination with CART. Additionally, Kitchen et al. teaches the

repeated modeling of data in Paragraph 0026 ("MARS and CART"). The method of the invention of starts with the application of the MARS methodology and then applies the CART methodology, and this process is repeated until a representative data set is produced (P 0011 and 0014-0015).

Regarding claim 7:

Kitchen et al. teaches,

(Currently amended) The method further comprising:

avoiding an overfitting in said predictive model by determining when a successive transform/regression stage does not add to a performance of said predictive model.

The examiner takes the position that the avoiding of overfitting, as claimed by the applicant, is anticipated by the use of cross validation with holdout data and training data in Paragraph 0064 of Kitchen et al. This position is supported by the applicant's disclosed method of "avoiding an overfitting" in Paragraph 0122, which teaches the use of cross validation to avoid overfitting.

Regarding claim 8:

Kitchen et al. teaches,

(Original) The method wherein said determining of performance degradation comprises a holdout method, said holdout method comprising:

dividing an available data into a training set (P 0064; "*training sample*") and a holdout data set (P 0064; "*training sample*");

using said training set to estimate a model parameter and to construct an alternative model structure (P 0076; "*use the "training sample" output from MARS to create rule for mutations*"); and

using said holdout data set to make a selection among said alternative model structure (P 0081; "*validate the results on the hold-out sample*").

Regarding claim 9:

Kitchen et al. teaches,

(Original) The method wherein said determining of performance degradation comprises a cross-validation method, said cross-validation method comprising:

dividing an available data into a plurality of folds of data; and

successively, using each said fold as a holdout data set, and a remaining data not in said fold is used as a training data set to estimate model parameters and to construct alternative model structures and said training data set is used to make a selection among said alternative model structures.

The examiner takes the position that the dividing of data, use of a holdout data set, and a training data set is anticipated by the teaching of Kitchen et al. in Paragraph 0092. Additionally, the use of the holdout set and training set is taught in Paragraphs 0081 and 0076 respectively.

Regarding claim 10:

Kitchen et al. teaches,

(Currently amended) A predictive modeling method, comprising:

establishing an initial model module to instance an initial model; and

establishing a boosting stage model module to instance a boosting stage model for each of one more successive boosting stages,

wherein each at least one instanced boosting stage model receives, as input, an input data and an output from at least one of said initial model and a preceding boosting stage model.

The examiner takes the position that the process of receiving a first input to produce an output, then inputting said output and a second input into a boosting stage is anticipated in the process taught in Paragraph 0011, of Kitchen et al. (P 0011; "*if the initial data set is determined not to be representative, underrepresented data is appropriately replicated and the replicated data combined with the data in the initial data set so as to produce a resulting modified data set*").

Additionally, the examiner takes the position that the "boosting stage", as claimed by the applicant, is anticipated by the process of applying the Recursive Partitioning methodology (Kitchen et al.; P 0026-0030). This position is supported by applicant's disclosure which teaches that "boosting stages" consist of a "feature transformation' (Applicant's Disclosure; P 0084) and a "linear

regression" (Applicant's Disclosure; P 0086). It is widely known in the art that recursive partitioning is a non-linear regression method that transforms input data. Finally, the examiner asserts that the "modules" are nothing more than software implementations of the methods taught by Kitchen et al. as set forth above. Though not explicitly stated, it is inherent that the "modules" of applicant's invention are in the invention of Kitchen et al. can be software. This inherency is derived from Kitchen et al. teaching that the method can be performed using a computer (P 0015).

Regarding claim 11:

Kitchen et al. teaches

(Currently amended) The method wherein at least one said boosting stage model feeds forward a second output as another input into at least one succeeding boosting stage models.

The examiner takes the position that feeding forward of a second output as another input is inherent in the process of replicating and combining data (P 0011; "*underrepresented data is appropriately and the replicated data combined with the data in the initial data set*"). This position is supported by the fact that in combining data, the data is added as the CART/MARS method progresses forward toward a representative data set.

Regarding claim 12:

Kitchen et al. teaches

(Currently amended) The method further comprising:

instancing said initial model (The examiner takes the position that instancing the model is nothing more than providing the initial values to the model, and is inherent in the invention of Kitchen et al.);

successively instancing one or more of said boosting stage models to be successive boosting stage models, wherein at least one said boosting stage model receives, as input, an output from at least one of said initial model and a preceding boosting stage model (The examiner takes the position that the successively instancing of boosting stage models to be successive boosting models is anticipated by Kitchen et al. teaching the repeated replication, combining and modeling of data using MARS in combination with CART. The method of the invention starts with the application of the MARS methodology and then application of the CART methodology, and this process is repeated until a representative data set is produced (P 0011 and 0014-0015));

providing an input data as inputs to said initial model (P 0011; "*the initial data set*"; The examiner takes the position that initial data set being input into the initial model is evident in the analysis performed to determine if underrepresented data is missing, where a model does the "determining"); and

for each successive boosting stage model, providing an input data as input to said successive boosting stage model (The examiner takes the position that the underrepresented data acts as the input data).

Regarding claim 13:

Kitchen et al. teaches

(Currently amended) The method further comprising:

determining when an additional successive boosting, stage would not add to a performance of the predictive model.

The examiner takes the position that the "determining" is anticipated by the invention of Kitchen et al. determining when the invention produces a data set that is representative of the population of interest (P 0011).

Regarding claim 14:

Kitchen et al. teaches

(Original) The method wherein said determining of performance degradation comprises a holdout method, said holdout method comprising:

dividing an available data into a training set (P 0064; "*training sample*") and a holdout data set (P 0064; "*training sample*");

using said training set to estimate a model parameter and to construct alternative model structures (P 0076; "*use the "training sample" output from MARS to create rule for mutations*"); and

using said holdout data set to make a selection among said alternative model structures (P 0081; "*validate the results on the hold-out sample*").

Regarding claim 15:

Kitchen et al. teaches

(Original) The method wherein said determining of performance degradation comprises a cross-validation method, said cross-validation method comprising:

dividing an available data into a plurality of folds of data;

successively, using each said fold as a holdout data set, and a remaining data not in said fold is used as a training data set to estimate model parameters and to construct alternative model structures and said training data set is used to make a selection among said alternative model structures.

The examiner takes the position that the dividing of data, use of a holdout data set, and a training data set is anticipated by the teaching of Kitchen et al. in Paragraph 0092. Addditionally, the use of the holdout set and training set is in Paragraphs 0081 and 0076 respectively.

Regarding claims 16 and 17:

Kitchen et al. teaches

(Currently amended) The method wherein said boosting stage model comprises:

a first data input port;

a second data input port;

a feature transform stage receiving data from said first data input port and said second data input port;

a linear regression stage receiving an output from said feature transform stage;

a summing node receiving data from said first data input port and output data from said linear regression stage; and

an output port receiving data outputted from said summing node.

The examiner takes the position that the above claimed method is anticipated by the methods of Kitchen et al. as set forth above. The examiner asserts that while not explicitly recited, in the invention of Kitchen et al., the specific ports of applicant's claimed invention are anticipated by the broad methods taught by Kitchen et al.

Additionally, the examiner previously established the use of transform and regression stages and the successive inputting and outputting of data from the various stages in the arguments of claims 4, 5 and 6.

Regarding claim 18:

Kitchen et al. teaches

(Currently amended) An apparatus to perform a predictive modeling method, said apparatus comprising:

an initial model module to instance an initial model; and

a boosting stage model module to instance a boosting stage model for each of one or more successive boosting stages,

wherein at least one said boosting stage model receives a data input and an input from an preceding boosting stage model.

The examiner takes the position that the process of receiving a first input to produce an output, then inputting said output and a second input into a boosting stage is anticipated in the process taught in Paragraph 0011, of Kitchen et al. (P 0011; "*if the initial data set is determined not to be representative, underrepresented data is appropriately replicated and the replicated data combined with the data in the initial data set so as to produce a resulting modified data set*").

Additionally, the examiner takes the position that the "boosting stage", as claimed by the applicant, is anticipated by the process of applying the Recursive Partitioning methodology (Kitchen et al.; P 0026-0030). This position is supported by applicant's disclosure which teaches that "boosting stages" consist of a "feature transformation' (Applicant's Disclosure; P 0084) and a "linear regression" (Applicant's Disclosure; P 0086). It is widely known in the art that recursive partitioning is a non-linear regression method that transforms input data.

Finally, the examiner asserts that the "modules" are nothing more than software implementations of the methods taught by Kitchen et al. as set forth above. Though not explicitly stated, it is inherent that the "modules" of applicant's invention are in the invention of Kitchen et al. This inherency is derived from Kitchen et al. teaching that the method can be performed using a computer (P 0015).

Regarding claim 20:

Kitchen et al. teaches

(Currently amended) A signal-bearing medium tangibly embodying a program of machine readable instructions executable by a digital processing apparatus (The examiner takes the position that Kitchen et al. anticipates the specific claiming of a signal bearing medium tangibly embodying machine readable instruction executable by a digital process apparatus by teaching that his method can be processed on a computer in Paragraph 0016) to perform a predictive modeling method, said instructions comprising:

an initial model module to instance an initial model; and

a boosting stage model module to instance a boosting stage model for each of one or more successive boosting stages,

wherein at least one instanced boosting stage model receives, as input, a data input and an output from at least one of said initial model and a preceding boosting stage model.

The examiner takes the position that the process of receiving a first input to produce an output, then inputting said output and a second input into a boosting stage is anticipated in the process taught in Paragraph 0011, of Kitchen et al. (P 0011; "*if the initial data set is determined not to be representative, underrepresented data is appropriately replicated and the replicated data combined with the data in the initial data set so as to produce a resulting modified data set*").

Additionally, the examiner takes the position that the "boosting stage", as claimed by the applicant, is anticipated by the process of applying the Recursive

Partitioning methodology (Kitchen et al.; P 0026-0030). This position is supported by applicant's disclosure which teaches that "boosting stages" consist of a "feature transformation' (Applicant's Disclosure; P 0084) and a "linear regression" (Applicant's Disclosure; P 0086). It is widely known in the art that recursive partitioning is a non-linear regression method that transforms input data. Finally, the examiner asserts that the "modules" are nothing more than software implementations of the methods taught by Kitchen et al. as set forth above. Though not explicitly stated, it is inherent that the "modules" of applicant's invention are in the invention of Kitchen et al. can be software. This inherency is derived from Kitchen et al. teaching that the method can be performed using a computer (P 0015).

Regarding claim 22:

Kitchen et al. teaches

(Currently amended) A method of providing a service (P0027; *"[Recursive Partitioning] is widely used in data-mining application, such as for credit risk prediction, customer profiling, direct marketing strategies, and quality control*"; The examiner takes the position that these are services that can be provided), said method comprising at least one of:

providing an execution of a predictive modeling method, wherein said predictive modeling method comprises:

establishing an initial model module to instance an initial model; and

establishing a boosting stage model module to instance a boosting stage model for each of one or more successive boosting stages, wherein at least one instanced boosting stage model receives, as input, an input data and an output from at least one of said initial model or a preceding boosting stage model.

The examiner takes the position that the process of executing of the predictive method is inherent in the invention of Kitchen et al. Additionally, the examiner previously established the instancing of an instancing of an initial model to be equivalent to providing the model with an initial data (P 0011; "*if the initial data set is determined not to be representative, underrepresented data is appropriately replicated and the replicated data combined with the data in the initial data set so as to produce a resulting modified data set*").

Regarding claim 25:

Kitchen et al. teaches

(Currently amended) A method of determining performance degradation in an iterative predictive modeling, said method comprising:

dividing an available data into a plurality of folds of data;

for each said fold, instancing an iterative predictive modeling method and associating it with said fold (The examiner takes the position that the instancing of a new predictive model for each data fold is inherent in the process of training and modeling the data. This position is based on the fact the in order for the

MARS/CART methodologies taught in Kitchen et al. to be effective, new splines and regression trees must be constructed that better produce the representative data set.);

successively, using each said fold within the iterative predictive modeling method associated with that fold as a holdout data set, and a remaining data not in said fold is used as a training data set to estimate model parameters, and to construct alternative model structures and said training data set is used to make a selection among said alternative model structures.

The examiner takes the position that the dividing of data, use of a holdout data set, and a training data set is anticipated by the teaching of Kitchen et al. in Paragraph 0092. Additionally, the use of the holdout set and training set is taught in Paragraphs 0081 and 0076 respectively.

Regarding claim 26:

Kitchen et al. teaches

(Original) A method for deploying computing infrastructure, comprising integrating computer-readable code into a computing system, wherein the code in combination with the computing system is capable of performing the method of claim 1.

The examiner takes the position that the use of computer readable code is inherent in the invention of Kitchen et al. This position is supported by the broad teaching of his invention being either partially or wholly performed on a computer (P 0016). The examiner asserts that it is widely known in the computer arts that computers run come

form of code whether it machine code or some higher level code (i.e. assemble, C++, etc.).

Allowable Subject Matter

9. Claims 19 and 21 are which are not rejected under the prior art, would be allowable if rewritten to overcome the rejections(s) under 35 U.S.C. 101, set forth in this Office Action and to include all of the limitation of the base claim and any intervening claims.

Regarding claims 19 and 21 the examiner takes the position that while Kitchen et al. teaches the method of claims 18 and 20, Kitchen et al. comprising a graphic user interface, the displaying or printing to a printer, data file or an application program the final output of a final of said successive boosting stage models.

Response to Arguments

Applicant's arguments filed on August 30, 2006 have been fully considered but they are not persuasive. The unpersuasive arguments made by the Applicant are stated below:

In reference to Applicant's argument:

> Relative to the process claims, the relatively recent *State Street* and *AT&T* cases (as well as the "Interim Guidelines") confirms that such claims are directed toward statutory subject matter if the result achieved is "useful, concrete and tangible", and Applicant submits that data mining clearly provides such result, as described in the disclosure at, for example, the first paragraph of page 2 through the third paragraph on page 3, wherein is mentioned non-limiting applications for direct-mail targeted marketing, default on loans, insurance, and Internet advertising.

Examiner's response:

The examiner takes the position that the Applicant's primary argument, regarding whether the applicant's claims are directed towards statutory subject matter is that the "useful, concrete, and tangible result" is evident in the non-limiting examples taught in the applicant's disclosure. The examiner respectfully reminds the applicant that the claimed invention, not disclosed invention, is used to determine whether an invention as a whole provides a "useful, concrete, and tangible result". While the non-limiting applications provided in the disclosure do provide a "useful, concrete, and tangible result", there is no language in the claimed invention that would link the predictive model method's output to the real world. Furthermore, embodying a process or algorithm that does not produce a "useful, concrete, and tangible result" on a computer readable medium or in an apparatus does not change the fact that the process/algorithm only manipulates data and is therefore non-statutory per se.

In reference to Applicant's argument:

> However, Applicant submits that there is <u>no equivalent concept of nor any mention of boosting stages</u> in the cited reference.

Examiner's response:

The examiner has reviewed the applicant's arguments regarding the prior art rejection. In light of the applicant's newly amended claims, which are more limiting in scope than the previously submitted claims, the examiner has presented a new prior art rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chen et al. (USPN 6,519,534) is cited for his paper web breakage prediction using bootstrap aggregation of classification and regression trees. Moghaddam (USPubN 2003/0200188) is cited for his classification with boosted dyadic kernel discriminants. Cantu-Paz et al. (USPubN 2003/0204508) is cited for creating ensembles of oblique decision trees with evolutionary algorithms and sampling. Theisson et al. (USPN 7,133,811) is cited for his staged mixture modeling. Walter et al. (USPubN 2003/0088565) is cited for his method and system for mining large data sets. Pathria et al. (USPN 6,728,695) is cited for his method and apparatus for making predictions about entities represented in documents

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adrian L. Kennedy whose telephone number is (571) 270-1505. The examiner can normally be reached on Mon -Fri 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on (571) 272-3687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ALK

Anthony Knight
Supervisory Patent Examiner
Technology Center 2100